



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,971	07/31/2003	Luciano Lenzini	060091.00206	1843
32294 7590 07/10/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212				
EXAMINER				
NGUYEN, KHAI MINH				
ART UNIT		PAPER NUMBER		
2617				
MAIL DATE		DELIVERY MODE		
07/10/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/630,971

**Applicant(s)**

LENZINI ET AL.

**Examiner**

KHAI M. NGUYEN

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/10/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17, 18, 20, 24, 25, 56, 58-62, 64-68 and 70-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-18, 20, 24-25, 56, 58-62, 64-68, and 70-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Regarding claims 17-18, 20, 24-25, 56, 58-62, 64-68, and 70-73, Applicant argues, of the remarks, that IEEE in view of Laakso do not disclose, teach, or suggest "(1) avoiding a mismatch between a granted capacity and data received from a subscriber station using information based on request messages , capacity grant messages and received transmissions; (2) allocate connection-specific a capacity granted by a base station."

IEEE in view of Choi and Background of invention clearly disclose

(1) avoding means for avoiding mismatch between a capacity granted and data received from a subscriber station using information based on request messages (see Choi, col.3, lines 36-51 **(the indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal)**), capacity grant messages and received transmissions col.8, lines 21-26 **(the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station)**).

(2) allocate connection-specific a capacity granted by a base station (see Background of the invention, [0005] **(a centrally controlled access system, the**

Art Unit: 2617

access point is responsible for allocating capacity to subscriber stations on the uplink channel, i.e. for deciding when and for how long each subscriber station is allowed to transmit on the channel. These messages usually include a list of information elements, each one defining a capacity grant, specified i.e. by a starting time and a time frame for a transmission, addressed to a specific entity defined by the protocol) and [0007]).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-18, 20, 24-25, 56, 58-62, 64-68, and 70-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE Std 802.16-2001, in view of Choi (U.S.Pat-6272117), and further in view of Background of the invention.

Regarding claims 17 and 61, IEEE teaches an apparatus/ a method, comprising:

granting means for granting a transmission subscriber station (pg.83, section 6.2.5); 1

transmitting means for transmitting grant messages to at least one subscriber station (pg.86, section 6.2.6.1)

IEEE fails to specifically disclose monitoring means for monitoring capacity request message from the at least one subscriber station, grant messages sent by a

base station and data transmission received from the at least one subscriber stations; avoding means for avoiding mismatch between a granted and data received from a subscriber station using information based on request messages, grant messages and received transmissions.

However, Choi teaches monitoring means for monitoring capacity request message from the at least one subscriber station (col.3, lines 36-44 (**one or more mobile data terminals to transmit a request for access to the communication channel upon receiving the message from the base station**)), grant messages sent by a base station (col.3, lines 36-44 (**granting the request for access to the communication channel to the requesting mobile wireless data terminal**)) and data transmission received from the at least one subscriber stations (abstract (col.3, lines 36-51 (**previous message received from the mobile wireless terminal**))); avoding means for avoiding mismatch between a granted and data received from a subscriber station using information based on request messages (col.3, lines 36-51 (**the indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal**)), grant messages and received transmissions (col.3, lines 36-51).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-specific.

However, Background of the invention teaches a capacity grant to subscriber station-specific ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 18, IEEE, Choi, and Background of the invention further teach the base station of claim 17, wherein the base station is configured to monitor data based on messages and transmissions using a memory table (see IEEE, table 58, pg.85, section 6.2.5-6.2.5.4).

Regarding claims 20 and 64, IEEE teaches an apparatus/ a computer program embodied on a computer-readable medium, comprising:

first transmitting means for transmitting capacity request messages of at least one connection (pg.86, section 6.2.6.1);

receiving means for receiving capacity grant messages from a base station (pg.83, section 6.2.5);

IEEE fails to specifically disclose allocating means for allocating connection granted by a base station; second transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity requests of a

subscriber station; and third transmitting means for transmitting data according to a capacity allocation made by the subscriber station.

However, Choi teaches allocating means for allocating connection granted by a base station (col.3, lines 31-51 **(sending a message from the base station in a first set of time slots indicating whether the communication channel is available))**; second transmitting means for transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (col.3, lines 36-51 **(previous message received from the mobile wireless terminal))**; and third transmitting means for transmitting data according to a capacity allocation made by the subscriber station (col.8, lines 21-26 **(the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station))**

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoid collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted.

However, Background of the invention teaches connection-specific a capacity granted ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claims 24 and 66, IEEE teaches an apparatus/ a computer program embodied on a computer-readable medium, comprising:

a receiver configured to receive capacity request messages from at least one subscriber station (pg.86, section 6.2.6.1); and

a processor configured to,

grant a transmission capacity subscriber station (pg.83, section 6.2.5), transmit grant messages to the at least one subscriber station (pg.86, section 6.2.6.1); and

IEEE fails to specifically disclose monitoring request messages received from the at least one subscriber stations, grant messages sent by a base station and data transmissions received from the at least one subscriber station; wherein the processor is further configured to avoid a mismatch between a granted and data received from a subscriber station using information based on request messages, grant messages and received transmissions.

However, Choi teaches monitoring request messages received from the at least one subscriber stations (col.3, lines 36-44 (**one or more mobile data terminals to transmit a request for access to the communication channel upon receiving the message from the base station**)), grant messages sent by a base station (col.3, lines



36-44 (**granting the request for access to the communication channel to the requesting mobile wireless data terminal**) and data transmissions received from the at least one subscriber station (abstract (col.3, lines 36-51 (**previous message received from the mobile wireless terminal**))); wherein the processor (base station include processor) is further configured to avoid a mismatch between a granted and data received from a subscriber station using information based on request messages (col.3, lines 36-51 (**the indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal**))), grant messages and received transmissions (col.3, lines 36-51).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-specific.

However, Background of the invention teaches a capacity grant to subscriber station-specific ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 25, IEEE teaches an apparatus comprising:

a transmitter configured to transmit capacity request messages of at least one connection (pg.86, section 6.2.6.1); and

a processor configured to,

IEEE fails to specifically disclose allocate connection-specific a capacity granted by a base station; transmit message wherein the message comprise information on previous capacity request; and transmit data from a subscriber station according to a capacity allocation made by the subscriber station.

IEEE fails to specifically disclose allocate connection granted by a base station; transmit message wherein the message comprise information on previous capacity request; and transmit data from a subscriber station according to a capacity allocation made by the subscriber station.

However, Choi teaches allocate connection a granted by a base station **(sending a message from the base station in a first set of time slots indicating whether the communication channel is available)**); transmit message wherein the message comprise information on previous capacity request (col.3, lines 36-51 **(previous message received from the mobile wireless terminal)**); and transmit data from a subscriber station according to a capacity allocation made by the subscriber station (col.8, lines 21-26 **(the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station)**)).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoid collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted by a base station.

However, Background of the invention connection-specific a capacity granted by a base station ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 56, IEEE teaches a method, comprising:

transmitting capacity request messages of at least one connection (pg.86, section 6.2.6.1);

receiving grant messages from a base station (pg.83, section 6.2.5);

IEEE fails to specifically disclose transmitting messages, wherein the messages comprise information based on previous capacity requests of a subscriber station; and for transmitting data according to a capacity allocation made by the subscriber station.

However, Choi teaches transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (col.3, lines 36-51 (**previous message received from the mobile wireless terminal**)); and for transmitting data according to a capacity allocation made by the

subscriber station (col.8, lines 21-26 **(the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station))**)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoid collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specifically allocating a capacity granted by the base station.

However, Background of the invention teaches connection-specifically allocating a capacity granted by the base station ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 58, IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces at the base station a previous information connection- specifically (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its

perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

Regarding claim 59, IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces information based on a need for bandwidth for a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

Regarding claim 60, IEEE, Choi, and Background further teach the method of claim 56, further comprising: transmitting update messages comprising information based on previous capacity requests, wherein the update messages replace at the base station previous information on a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

Regarding claim 62, IEEE, Choi, and Background further teach the method of claim 61, further comprising: monitoring data based on messages and transmissions using a memory table (see IEEE, table 58, pg.85, section 6.2.5-6.2.5.4).

Regarding claim 65 is rejected with the same reasons set forth in claim 60.

Regarding claim 67, IEEE, Choi, and Background further teach the computer program of claim 66, further comprising: receiving update messages comprising information based on previous capacity requests, wherein the update messages replace previous information on a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested))).

Regarding claim 68 is rejected with the same reasons set forth in claim 62.

Regarding claim 70 is rejected with the same reasons set forth in claim 60.

Regarding claim 71 is rejected with the same reasons set forth in claim 60.

Regarding claim 72 is rejected with the same reasons set forth in claim 63.

Regarding claim 73 is rejected with the same reasons set forth in claim 60.

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI M. NGUYEN whose telephone number is (571)272-7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571.272.7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/  
Supervisory Patent Examiner, Art Unit 2617

/Khai M Nguyen/  
Examiner, Art Unit 2617

7/1/2009